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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

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Office Action Summary

Application No.

10/004,723

Applicant(s)

FORSSELL, MIKA

Examiner

Jung Park

Art Unit

2619

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 August 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 and 22-42 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6, 10-15, 19, 20, 24-31, 35-38 and 42 is/are rejected.
- 7) ☒ Claim(s) 7-9, 16-18, 22-23, 32-34, and 39-41 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
2. Claims 1-10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1, what is mean by "buffering the cell change PDU message into a PDU transmit queue before any buffered PDUs that were present before the mobile station entered the new cell"? Is the cell change PDU physically located at the same queue before any buffered PDU? Claims 11, 29 and 36 are more clearly pointing out the claiming subjection matter.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -
(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

4. Claims 1-6, 11-15, and 36-38 are rejected under 35 U.S.C. 102(e) as being anticipated by Otting et al. (US 2002/0186675, "Otting").

Regarding claim 1, Otting discloses a mobile station executed method for changing from a current cell to a new cell in a wireless packet data network, comprising:

- entering the new cell (new cell, see 116 fig.1 and fig.4);

- generating a cell change packet data unit (PDU) message for informing the network of the location of the mobile station in the new cell (logical link control (LLC) frame for reselecting of new cell, see fig.2, fig.4, and ¶.19);
- buffering the cell change PDU message into a PDU transmit queue (store LLC frame for packet transmission, see ¶.19) before any buffered PDUs that were present before the mobile station entered the new cell (when a reselection is completed, packet data is transmitted to the other cell, that is, LLC PDU is stored before transmitting packet data, see ¶.19); and
- transmitting the buffered cell change PDU before any of the buffered PDUs that were present before the mobile station entered the new cell (when a reselection complete signal is received, packet data is transmitted to the other cell using LLC frame size, see ¶.19).

Regarding claim 2, Otting discloses, "wherein the step of transmitting includes a preliminary step of requesting an uplink resource for transmitting the cell change PDU (inherently have the request for LLC frame from MS to Cell, see fig.2 and fig.4)."

Regarding claim 3, Otting discloses, "wherein the step of transmitting includes a preliminary step of requesting an uplink Temporary Block Flow (TBF) for transmitting the cell change PDU (temporary block flow, see fig.4 and ¶.33)."

Regarding claim 4, Otting discloses, "wherein the wireless packet data network, in response to receiving the cell change PDU, transmits downlink PDUs for the mobile station into the new cell (fig.4 and ¶.23)."

Regarding claim 5, Otting discloses, "wherein the generated cell change PDU is transmitted only if a first PDU in the transmit queue exceeds a predetermined length (minimum frame size, fig.5 and ¶.38), otherwise the cell change PDU is discarded and the first PDU in the transmit queue is transmitted instead (fig. 6 and ¶.39)."

Regarding claim 6, Otting discloses, "wherein the wireless packet data network is comprised of a General Packet Radio Service (GPRS) network (fig.2 and ¶.7), wherein the PDUs are Logical Link Control (LLC) PDUs (fig.2 and fig.4), and where the cell change LLC PDU has a length that fits within one Radio Link Control (RLC) data block (fig.4)."

Regarding claims 11 and 36, they are claims corresponding to claim 1 and are therefore rejected for the similar reasons set forth in the rejection of claim 1.

Regarding claims 12-15, 37, and 38, they are claims corresponding to claims 2, 3, 5, 6, 2, & 7, respectively and are therefore rejected for the similar reasons set forth in the rejection of the claims.

5. Claim 20 is rejected under 35 U.S.C. 102(e) as being anticipated by Lupien et al. (US 6463055, "Lupien").

Regarding claim 20, Lupien discloses a method for informing a Serving General Packet Radio Service (GPRS) Support Node (SGSN) of a wireless network that a Mobile Station (MS) has made a cell change, comprising:

Art Unit: 2619

- changing from a first cell to a second cell with the MS (cell updated, see col.29, ln.51-52); and
- prior to the SGSN receiving at least one of a Packet Data Unit (PDU) and a message from the MS (cell update control procedure before data packet transfer, see fig.9; col.29, ln.43-col.30, ln.8), notifying the SGSN of the MS cell change (inform SGSN of cell change, see col.29, ln.43-col.30, ln.8 and also col.15, ln.35-49).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 10, 19, 35, and 42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Otting in view of Forslow (US 6937566, "Forslow").

Regarding claim 10, Otting lacks what Forslow discloses, "wherein the step of generating includes setting a priority level of the cell change PDU such that the step of buffering the cell change PDU message into the PDU transmit queue causes the cell change PDU to be transmitted before any lower priority PDUs (col.13, ln.25-47)."

Therefore, it would have been obvious to one of ordinary skill in the art at the time of applicant's invention to apply the weighted fair queuing (WFQ) algorithm taught by Forslow into the system of Otting in order to control LLC flows based on the quality of service and/or priority for better service.

Regarding claims 19, 35, and 42, they are claims corresponding to claim 10 and is therefore rejected for the similar reasons set forth in the rejection of claim 10.

8. Claims 24-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lupien in view of Otting.

Regarding claim 24, Lupien lacks what Otting discloses, "wherein the step of notifying occurs in response to the MS being assigned a TDMA frame number of when to make the cell change (LLC frame, GPS uses TDMA, see fig.4)." Therefore, it would have been obvious to one of ordinary skill in the art at the time of applicant's invention to apply LLC frame number taught by Otting into the cell change method of Lupien in order to have sequence of TDMA frame for frame assembly with the motivation of having standard protocol compliance.

Regarding claim 25, Lupien discloses, "wherein the step of notifying occurs in response to the network receiving a Radio Link Control/Medium Access Control (RLC/MAC) message from the MS (fig.9 and col.29, ln.43-col.30, ln.8)."

Regarding claim 26, Lupien discloses, "wherein the step of notifying occurs in response to the network receiving a Temporary Logical Link Identifier (TLLI) from the MS (TLLI, see col.10, ln.16-41)."

9. Claims 27 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lupien in view of Forslow.

Regarding claim 27, it is a claim corresponding to claims 20 and 10 and is therefore rejected for the similar reasons set forth in the rejection of claims 20 and 10.

Regarding claim 28, it is a claim corresponding to claim 10 and is therefore rejected for the similar reasons set forth in the rejection of claim 10.

10. Claims 29-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Otting.

Regarding claim 29, it is a claim corresponding to claim 1, except the computer readable medium. However, it would have been obvious to one of ordinary skill in the art at the time of applicant's invention was made to use software-based machines. The benefit using computer-readable medium is that program can be changed and upgraded and new features are added easily than hardware changes and is therefore rejected for the similar reasons set forth in the rejection of claim 1.

Regarding claims 30 and 31, they are claims corresponding to claims 2 and 3, respectively and are therefore rejected for the similar reasons set forth in the rejection of the claims.

Allowable Subject Matter

11. Claims 7-9 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Art Unit: 2619

12. Claims 16-18, 22, 23, 32-34, and 39-41 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

13. Applicant's arguments with respect to claims 1-42 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jung Park whose telephone number is 571-272-8565. The examiner can normally be reached on Mon-Fri during 6:15-3:45.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edan Orgad can be reached on 571-272-7884. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Application/Control Number: 10/004,723

Page 9

Art Unit: 2619

JP

Jung Park
Patent Examiner

EDAN . . ORGAD
SUPERVISORY PATENT EXAMINER

Edan Orgad 10/19/07